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[54]	COLLAGEN RECONSTITUTION				
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[58]	Field of Sea	arch			
[56]	References Cited				
U.S. PATENT DOCUMENTS					
3,5	75,961 1/19 53,299 1/19 76,298 7/19				

FOREIGN PATENT DOCUMENTS

49-39174	10/1974	Japan	
51-14035	2/1976	Japan	351/160 H
51-30749	3/1976	Japan	351/160 H

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ABSTRACT

The effect of earth gravity on the self assembly of tropocollagen molecules into collagen fibrils and on the aggregation of fibrils into collagen gels has been found to be surprisingly detrimental to the preparation of desirable biomaterials. Chemically and physically uniform biomaterials for use in repair or replacement of damaged or diseased human tissue and organs are prepared by otherwise conventional reconstitution of soluble tropocollagen carried out, however, under less than one gravity, preferably under zero gravity. Surprisingly better properties of the collagen aggregate suggest that improved biomaterials may be prepared from the uniform gels.

7 Claims, 3 Drawing Figures

